



# UNITED STATES PATENT AND TRADEMARK OFFICE

8  
UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/500,724	11/29/2004	Per Gramme	2004-0859A	6707
513	7590	07/09/2007	EXAMINER	
WENDEROTH, LIND & PONACK, L.L.P.			TURNER, SONJI	
2033 K STREET N. W.				
SUITE 800			ART UNIT	PAPER NUMBER
WASHINGTON, DC 20006-1021			1724	
MAIL DATE		DELIVERY MODE		
07/09/2007		PAPER		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	Application No.	Applicant(s)	
	10/500,724	GRAMME, PER	
	Examiner Sonji Turner	Art Unit 1724	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 07 June 2007.
- 2a) This action is **FINAL**.                            2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 13-25 is/are pending in the application.
- 4a) Of the above claim(s) 21-25 is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 13-15 and 20 is/are rejected.
- 7) Claim(s) 16-19 is/are objected to.
- 8) Claim(s) 21-25 are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) All    b) Some \* c) None of:  
1. Certified copies of the priority documents have been received.  
2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- 1) Notice of References Cited (PTO-892)
- 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date 7/6/2004.
- 4) Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) Notice of Informal Patent Application
- 6) Other: \_\_\_\_\_.

**DETAILED ACTION**

***Election/Restrictions***

1. Newly submitted claims 21-25 directed to an invention that is independent or distinct from the invention originally claimed for the following reasons:

Inventions 13-20 and 21-25 are related as process and apparatus for its practice. The inventions are distinct if it can be shown that either: (1) the process as claimed can be practiced by another and materially different apparatus or by hand, or (2) the apparatus as claimed can be used to practice another and materially different process. See MPEP § 806.05(e). In this case, the process of transforming a dispersed liquid/gas flow into a stratified flow can be accomplished using a device with blades that rotate (a materially different apparatus) to impose a swirling motion on the fluid stream.

Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, claims 21-25 are withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

***Priority***

2. Acknowledgment is made of applicant's claim for foreign priority under 35 U.S.C. 119(a)-(d) based upon an application filed in Norway on February 8, 2002. The certified copy has been filed in parent Application No. 10/500724, filed on 7/6/2004.

***Drawings***

3. The drawings were received on 6/7/2007. These drawings are acceptable.

***Specification***

4. Acknowledgment is made of applicant's revisions to the specification and receipt of the substitute specification. The Office appreciates effort to place the application in the preferred U.S. format as stated in applicant's remarks on page 6.

***Claim Rejections - 35 USC § 102***

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claim 13 and 20 are rejected under 35 U.S.C. 102(b) as being anticipated by Griffen (U.S. Patent No. 2,506,298). Griffen teaches a device for changing the direction of motion of a rotating fluid stream from a spiral motion to a longitudinal motion that contains a centrifugal separation unit for removing foreign particles from gas streams. Griffen discloses an inlet conduit, or pipe, (2) that operates to receive particle-laden air (col. 1, line 37) which is given a rotary motion and throws particles onto the walls of pipe (2). Griffen discloses a device with an inlet pipe (2), a set of stationary blades (3) designed to rotate the fluid flow, an outlet pipe (5), and a mechanism that is a second set of guide blades (12) designed to stop the rotation of the fluid flow located in a transition area, see figure 1.

7. Claims 13 and 14 are rejected under 35 U.S.C. 102(b) as being anticipated by Capuano (EP 203896). Capuano teaches a device for the separation of liquid-vapor mixtures in a rising

Art Unit: 1724

motion that uses centrifugal force to separate components in the mixture (p. 1, lines 1-5). The device has an inlet pipe (p.4, lines 31-32, figs. 1, 2, and 3), a separation chamber (2) in transition between the inlet pipe and outlet pipe, a vortex generator (3) that rotates the fluid stream (p. 5, lines 7-70), a second device with a plurality of outlets (4) to uniformly distribute the separated phases (p. 5, lines 13-16), and a cylindrical tubular wall (6), or second pipe, with a diameter larger than inlet pipe (figs. 1, 2, and 3).

8. Claims 13 and 19 are rejected under 35 U.S.C. 102(b) as being anticipated by Merie (EP 210910). Merie discloses an invention intended for separation of solid particles or liquids in suspension in a fluid with a first pipe (10a), a first blade (14) that rotates the fluid flow, a second pipe (10c) with a second set of blades (16) that stop the fluid rotation (p. 2, ¶ 4). The device disclosed in Merie has a venturi between first blades (14) and a mechanism (16) for stopping the rotation of the gas (figs. 1, 2, 3) located in a transition area between the first and second pipes (figs. 1 and 2).

***Allowable Subject Matter***

9. Claims 16 to 19 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The following is the examiner's statement for reasons of allowance: None of the prior art of record teach, nor disclose, the claimed features of a mechanism as a perforated plate in combination with the features of the independent claim 13 and any intervening claims nor the claimed feature where the perforated plate are arranged at an angle in the longitudinal direction of the pipe as in claim 17 in combination with the features of the independent claim 13 and any intervening claims.

***Conclusion***

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Other prior art references listed on PTO-892 (Notice of References Cited) are considered to be of interest as the references disclose a variety of topics not limited to, but including, the following: devices used for two-phase separation, uniform distribution of two-phase fluids, mist eliminators, low-pressure drop vessels, static mixing devices, static laminar mixing methods, and mixer tubes for low-viscosity fluids.

***Response to Arguments***

11. Applicant's arguments filed 6/7/2007 have been fully considered but are not persuasive. Griffen discloses each of the structural limitation of the device taught in claims 1 and 20 as stated above in section 5. The fluid flow has a concentrated outer portion and a clean central portion. Although the concentration outer portion passes into the annular space 8 and is directed out through cover member 9, the principles of fluid mechanics are also applicable. The outer gradient of the fluid flow has a higher concentration of the heavier fluid and the concentration decreases in the flow toward the center of the fluid stream where the gas is at a higher concentration. Therefore, when the fluid stream is converted to a stratified flow each of the boundary layers still exists.

Figures 1 and 2 of Capuano disclose a set of stationary blades (3) and a mechanism (2). The mechanism (2) is located in the transition area between the first pipe (1) and second pipe (6). The mechanism is a separator that disturbs the turbulent fluid flow and separates out components with higher densities. The fluid flow pattern follows the same principles of fluid mechanics as stated above with Griffen.

Merie discloses an apparatus with blades (14) that rotate the fluid stream and a second mechanism, blades (16) that stop the rotation. Shown in figures 1 and 2, Merie discloses that the second set of blades (16) are located in the transition area between the first pipe (10a) and the second pipe (10c).

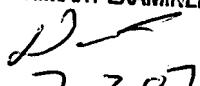
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sonji Turner whose telephone number is 571-272-1203. The examiner can normally be reached on Monday - Friday, 10:00 am – 2:00 pm (EST).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Duane Smith can be reached on 571-272-1166. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

st  
6/27/2007

DUANE SMITH  
PRIMARY EXAMINER

  
7-3-07